The Prevalence of enteric pathogens isolated from acute diarrhea in Takestan

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Background :
Diarrheal diseases in many countries, especially developing countries and children under the age of ٥years,are considered a major cause of morbidity and mortality.[١,٢] these disease is characterized by acute onset of diarrhea, which may or may not be accompanied by nausea, emesis, fever, abdominal pain and dehydration.[٣] Gastroenteritis transmission is spread by person to person or ingestion of contaminated food and drink.[٢]
The major etiologic agents in developed countries are viruses but in developing countries, bacteria are common . the commonest bacterial agents are Salmonella, Shigella, Campylobacter jejuni, enteropathogenic E. coli (EPEC),enterotoxigenic E.coli (ETEC) and Yersinia enterocolitica.[١,٢,٣,٤] This study aimed to determine the prevalence of bacterial pathogens causing diarrhea in cases of acute diarrhea in these patients.

Subjects and methods :
This study was performed from the beginning of May to the end of October ٢٠١٤ .Fresh stool samples were collected from patients referred to Laboratory of takestan health center In labeled plastic vials without preservatives. Diarrhea was defined as the excretion of at least ٢ Loose stools ina٢٤–hour period. Stool samples were Transferred to the microbiology laboratory in icebox And processed within١hoursof collection
Detection of bacterial agents :
Fresh stool samples were directly platedonto sheep Blood Agar(SBA) ,MacConekey agar(MAC), Xylose Lactose Desoxycholate (XLD) Agar , and Sorbitol MacConkey agar (SMAC).(HiMedia,India) and Incubated For١٨to٢٤hours at ٣٧ °C .Suspected colonies on the Plates were further identified by standard laboratory Procedures as colony morphology, Gram staining,and biochemical tests Including oxidase,urease and other standard differential Tests . Polyvalent antisera against E.coli were used for confirmation.

Results:
The present study was a cross-sectional descriptive.According to the study protocol,٤٥ diarrheal stool samples were Collected from patients referred to takestan health center. The highest isolated entericpathogen was E.coli ١٧ (٣٧.٨٪).other agents included staphylococcus aureus ٤ (٨.٩٪) , citrobacter freundii ٤(٨.٩٪),proteus mirabilis ٦ (١٣.٣٪) ,serratia marcescens ٣(٦.٧٪) ,klebsiella oxytoca ٦(١٣.٣٪) and Enterobacter cloacae ٥(١١.١٪).(**table١, Fig.١**)
Based on the serological tests, ٥cases (١١.١٪) of E.coli strains reacted with E.coli Antiserum poly Group ٣(O٤٤, O١٢٥, O١٢٨) and ٤ cases (٨.٩٪) reacted with E.coli Antiserum poly Group ٤(O٢٠, O١١٤) and ٨ cases(١٧.٨٪) did not reacted with any Antiserum grouping.

Microorganism	Cases(٤٥)	
	No.	%
E.coli	١٧	٣٧.٨٪
S. aureus	٤	٨.٩٪
Citrobacter freundii	٤	٨.٩٪
proteus mirabilis	٦	١٣.٣٪
Serratiamarcescens	٣	٦.٧٪
klebsiellaoxytoca	٦	١٣.٣٪
Enterobacter cloacae	٥	١١.١٪
Total	٤٥	١٠٠٪

Discussion:
Diarrheal diseases are amajor public health problem in developing communities around theworld.This study was aimed to determine the prevalence of common bacterial enteropathogens among patients referred in Takestan health center .
Comparing our findings with other study so Ja'afari & etal [١] , Yousefi Mashoof& etal [٥] ,Mohebi & etal[٦] , Khalili & etal[٧],enteropathogenic E. coli (EPEC) was the commonest Diarrheal bacterial agent .In a study conducted in Tehran by Ja'afari &etal[١],the prevalence of EPEC is in agreement with our findings(٣٨.٨٪).
correct information about the epidemiology and prevalence of diarrheal pathogens and the use of rapid diagnostics can reduce the burden of diarrheal infections and very helpful in promoting public health. The high presence of diarrhea-causing E. coli strains indicated the importance of these bacteria as a cause of acute diarrhea.

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